



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
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JUN 27 2019


Dr. Mary Currier, M.D., M.P.H.
State Health Officer
Mississippi State Department of Health
P.O. Box 1700
Jackson, Mississippi 39215-1700

Dear Dr. Currier:


As required by Title 40 of the Code of Federal Regulations §142.17, the U.S. Environmental Protection Agency Region 4 conducted an Annual Review of the Public Water System Supervision (PWSS) Program administered by the Mississippi State Department of Health (MSDH) for Fiscal Year 2017. The evaluation focused on core PWSS Program elements such as rule adoption and implementation, sanitary surveys, data management, lab certification, and enforcement. In addition, it considered other programs and issues that support implementation of the PWSS Program, including capacity development, operator certification, and state resources. For this effort, we relied on existing information already reported to the EPA by the State as well as information gathered through routine meetings and correspondence with representatives of MSDH's PWSS Program.

Overall, the EPA concluded that the MSDH continues to implement an effective PWSS Program. Please review the report and provide comments to the EPA within 30 days. If you have questions regarding any aspect of the report or the evaluation process, please contact me or have a member of your staff contact Mr. Robert Burns of the Drinking Water Section at (404) 562-9456.

Sincerely,



Jeaneanne M. Gettle, Director
Water Division



Enclosure

Annual Review of the Public Water System Supervision Program for the State of Mississippi

Fiscal Year 2017

October 1, 2016 – September 30, 2017

Summary of State Drinking Water Program

The U.S. Environmental Protection Agency Region 4 (EPA) conducted an end-of-year evaluation of the FY 2017 Public Water System Supervision (PWSS) program, administered by the Mississippi State Department of Health (MSDH). In FY 2017, MSDH regulated approximately 1,190 active public water systems (PWSs) that collectively serve more than 3.1 million customers. These water systems are divided into 1054 community water systems (CWSs), 74 non-transient non-community water systems (NTNCWS), and 62 transient water systems. Collectively, MSDH water systems exceeded the EPA National Water Program Measures (as shown in Table 1: EPA National Water Program Measures - MSDH).

Table 1: EPA National Water Program Measures - MSDH

ACS Code	EPA National Water Program Measures	State Results	FY 17 EPA National Target	FY 17 EPA Region 4 Target
2.1.1	Percent of the population served by CWSs that receive drinking water that meets all applicable health-based drinking water standards through approaches including effective treatment and source water protection.	96.7%	96.1%	96.1%
SP-1	Percent of CWSs that meet all applicable health-based standards through approaches that include effective treatment and source water protection.	97.8%	96.2%	96.2%
SP-2	Percent of "person months" (i.e. all persons served by CWSs times 12 months) during which CWSs provide drinking water that meets all applicable health-based drinking water standards.	98.0%	97.9%	97.9%

During FY 2017, the EPA conducted a Priority Review that focused on MSDH's PWSS Program's implementation of the Lead and Copper Rule (LCR), Ground Water Rule (GWR), Revised Total Coliform Rule (RTCR), and Ultraviolet disinfection under the Long Term 2 Enhanced Surface Water Treatment Rule. This review also included an evaluation of enforcement activities, laboratories and overall Program implementation.

State Resources

MSDH currently implements their PWSS program using a Direct Grant awarded by the EPA.

Table 2: Direct Grant – MSDH

FY 2017 EPA Direct Grant Funding	\$1,188,000
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In addition, during State FY 2017, MSDH utilized funding requested and received during FY 2016 for all available Drinking Water State Revolving Fund (DWSRF) set-asides, including the two (2) percent Small System Technical Assistance set-aside, the 10 percent State Program Management set-aside, and the 15 percent Local Assistance set-aside (for capacity development, source water protection, and wellhead protection).

Table 3: Set Asides – MSDH FY 2016	EPA Total Set Asides Utilized
	\$2,108,680

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As of June 30, 2017, MSDH expended \$1,210,083 (57 percent) of the awarded FY 2016 set-asides. In September 2017, the State was awarded its FY 2017 DWSRF grant. The grant also includes funding under each of the available set-asides, totaling \$2,182,080.

Status of Rule Adoption

MSDH has adopted regulatory authority for all federal PWSS Program rules promulgated to date.

The EPA has formally approved primacy applications submitted by MSDH for all rules except the RTCR. On June 23, 2016, MSDH submitted a complete final RTCR primacy application to the EPA; therefore, the State has interim primacy for RTCR.

On June 23, 2017, EPA sent a comment letter to MSDH regarding the State's RTCR primacy application requesting that MSDH make a few minor adjustments to its regulatory framework and clarify responses to two (2) special primacy requirements associated with the rule.

Sanitary Surveys

MSDH Regional engineers are responsible for conducting sanitary surveys of public water systems in Mississippi. Both community and non-community water systems (NCWSs) are scheduled to have a sanitary survey completed every three (3) years. The EPA only expects a NCWS to be surveyed at least once every five (5) years, so MSDH's schedule is more frequent than required. Regional engineers complete their assigned sanitary surveys according to the State's fiscal year schedule (July 1 to June 30). For CWSs and non-transient non-community water systems (NTNCWS), MSDH uses a Capacity Assessment Rating (CAR) to evaluate the technical, managerial and financial capacity of systems during sanitary surveys. MSDH's CAR method is a transparent and efficient method to match systems with technical or financial assistance. MSDH defines significant deficiencies in each of the eight (8) required sanitary survey components. Most commonly identified significant deficiencies among MSDH water systems include: inadequate internal cleaning/maintenance of storage tanks, lack of redundant mechanical components where treatment is required and improperly constructed wells.

In 2017, the EPA's Priority Review of MSDH's PWSS Program reviewed sanitary surveys in several ways as: (a) a required component of the GWR, (b) a source for population information, and (c) an indicator of overall performance. The resulting report of this Priority Review describes each of these sanitary survey uses. As of July 2017, the state completed sanitary surveys for 98 percent of CWSs within the required schedule.

Enforcement/Enforcement Targeting Tool (ETT)

The EPA works closely with all eight (8) regional states to address non-compliant systems and reduce the number of systems that are in priority status. On a quarterly basis, the EPA evaluates the ETT and provides reports to the states. If needed, the EPA meets with the State to discuss new systems on the ETT, challenges with addressing the ETT and any overall PWS enforcement program implementation issues. Since the inception of the ETT process in January 2010, MSDH's number of priority systems has fluctuated. Between January 2010 and July 2013, the number of priority systems was high (77 percent of the systems in the state at the highest). The main contributing factor was a laboratory certification issue with the RADs rule, which resulted in many violations that the state addressed over time. After that period, the number priority systems decreased and fluctuated between 0 and 16 systems on the priority list (October 2013 – October 2017 ETT lists). During FY

2017, MSDH had 16 or less systems (approximately 1.3 percent of the systems in the state) that were priority systems.

Table 4: MSDH FY 2017 Quarterly ETT Summary*

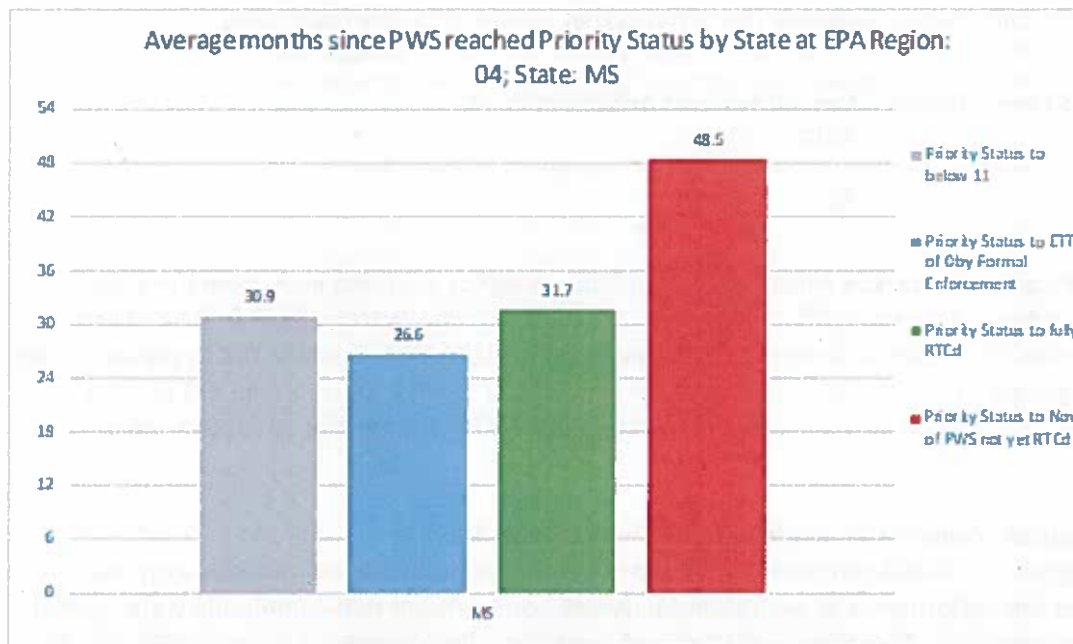
ETT List	October 2016	January 2017	April 2017	July 2017
Priority Systems	5	8	15	16
Additional Systems added due to Formal LCR TT Violations	5	3	2	1
Systems added due to LCR TT Violations	0	0	0	0
PWS with ETT 1-10	53	61	80	67
PWS Out of Compliance	72	78	100	89
PWS with Formal Enforcement	0	0	1	2
PWS with Informal Enforcement	31	13	40	39

*During the 2017 Priority Review, the EPA found several violations had not been reported to Safe Drinking Water Information System (SDWIS) FED; therefore, the number of non-compliant and priority systems in the above table below may not be fully representative of the actual number of systems. The EPA is working with MSDH to resolve this discrepancy as part of the Priority Review process.

MSDH does not currently have a formal enforcement standard operating procedure. This is a developmental need that the EPA is working to resolve with MSDH.

The information (shown in Figure 1: Average Months) presents the average number of months for MSDH to address (formal enforcement) or resolve (return to compliance (RTC)) ETT Priority Systems (ETT scores greater than 10). MSDH either issued formal enforcement or obtained an ETT score below an 11 within a timeframe of 26.6 months or 30.9 months, respectively. On average, it took MSDH 31.7 months to fully RTC a priority system. The EPA Drinking Water Enforcement Response Policy (dated December 8, 2009) established six (6) months as the standard for states to address or resolve systems that have an ETT score greater than 10. On a quarterly basis, the EPA and MSDH discuss the challenges of systems that have been on the ETT list for a prolonged period (greater than three (3) quarters) and possible Regional actions to return the system to compliance. In FY 2017, MSDH had five (5) systems that had been on the ETT priority list for greater than three (3) quarters.

Figure 1: Average Months to Reach Current Status Since PWS Reached Priority Status
Database: October 2012-October 2017 Data Freeze



In January 2017, the EPA began evaluating not only the timeliness of addressing priority systems but also the effectiveness of enforcement activities to RTC systems in non-compliance. This was done through an evaluation of the systems with formal enforcement that remained out of compliance. On a quarterly basis, the EPA adds any system to the ETT list, if the system remains non-compliant and has not resolved formal enforcement action two (2) years or older, regardless of the current ETT score. The EPA discussed these systems with MSDH to determine if the current enforcement was effective in obtaining RTC. For this reason, MSDH has added one (1) to five (5) systems each quarter over the FY 2017 timeframe. In January 2017, the EPA also included an evaluation of the current LCR treatment technique (TT) violations. MSDH did not have any systems with LCR TT violations reported to SDWIS/FED. However, MSDH issued a TT violation to the City of Jackson during the January 2016 - June 2017 timeframe. The failure to report the violation has been identified, discussed with the state, and MSDH has stated that the failure to report has been remedied.

The EPA compares each state's performance to the Annual Commitment System (ACS) Safe Drinking Water Act 02 (SDWA02) commitment. The ACS SDWA02 commitment is defined as "address with a formal enforcement action or return to compliance the number of priority systems equal to the number of PWSs that have a score of 11 or higher on the July 2016 ETT report". This commitment is incorporated into each state's annual PWSS grant workplan and is used as a tool to evaluate progress towards addressing priority systems. MSDH successfully met the FY 2017 ACS SDWA02 commitment based on Safe Drinking Water Information System (SDWIS) federal data (See Table 5: Systems that are Addressed or Resolved (for systems that scored ≥ 11 this Fiscal Year) Database: October 2017 SDWIS/Fed Freeze).

Table 5: Systems that are Addressed or Resolved (for systems that scored >=11 this Fiscal Year)
Database: October 2017 SDWIS Fed Freeze (For most states, this includes data through June 30, 2017)

State	FY 2017 ACS Commitment	Overall Systems Addressed in FY 2017
MS	7	11

During FY 2017, the EPA nationally tracked small CWSs (population 3,300 or less) that have been ETT priority systems without being addressed for three (3) quarters or more (based on the October 2017 ETT list). Each region is required to report this subset of systems to EPA Headquarters (EPA HQ) annually. The Region provided the FY 2017 report on January 31, 2018. MSDH had three (3) small CWSs that had been on the ETT priority list without being addressed for three (3) quarters or more. The EPA and MSDH are working to resolve these concerns.

DWSRF Program Integration: Capacity Development and Small System Support

MSDH uses its C&R program and SDWA compliance to identify water systems in need of capacity assistance. A MSDH engineer assesses the performance of each community and non-transient non-community water system annually during the sanitary survey. The rating is determined using Capacity Assessment Forms (CAFs), which consists of technical, managerial, and financial questions designed to identify tasks that a system must routinely accomplish to demonstrate its capacity to comply with current and proposed SDWA requirements. The rating scale ranges from "0" (minimum) to "5.0" (maximum). Using DWSRF set-aside funding, MSDH utilizes technical assistance contractors to provide free technical assistance to low-scoring systems and systems in long-term non-compliance. MSDH provides technical assistance organizations an annual list of systems in need of assistance. The contractors provide periodic reports to MSDH regarding the benefits of their assistance efforts.

Most of the CWSs (95 percent) in Mississippi are classified as small systems (service populations less than or equal to 10,000). Many of these systems benefit from assistance provided by MSDH and its partner organizations. During FY 2017, activities undertaken in some of the assistance program areas are outlined below:

1. *Comprehensive and Intermediate Technical Assistance.* Through a DWSRF-funded contract with MSDH, the Mississippi State University Extension Service (MSU-ES) provides one-on-one assistance to systems to improve their capacity ratings. Systems are strongly encouraged to utilize available assistance to increase their ratings. MSDH ranks systems and sends letters to the lowest performing systems. If a system refuses assistance, MSDH may take future compliance actions on the system. The system receives targeted and specialized assistance based on the water system's needs. Often, many systems need to make policy and management adjustments, which can take several months or longer to complete. During FY 2017, MSU-ES provided comprehensive and intermediate assistance to 13 public water systems.
2. *PEER Review Program.* This voluntary program pairs selected water system operators with other operators to assist in preparing for annual MSDH inspections. Similar to comprehensive and intermediate technical assistance, MSDH provides the Mississippi Rural Water Association (MRWA) a list of low scoring systems. MRWA sends a letter to the referred systems to determine their interest in participating in the PEER Review Program. If the system is interested, MRWA personnel coordinate a meeting with the PEER Review team and at least one system operator and a responsible official. During the meeting, all components of the capacity assessment are performed. After the meeting, the PEER Review team gives the system a

report which outlines issues and suggestions for improvement. The PEER Review Program primarily emphasizes technical components while providing limited managerial and financial assistance. During FY 2017, the PEER Review team assisted 14 water systems.

3. *Hands-On Operator Training.* MRWA provides small system operators specialized "hands-on" training and skills which enable them to effectively operate water systems. The training sessions, held throughout the State, provide participants with hands-on experience, such as meter and chlorinator repair, fire hydrant maintenance, leak detection, etc. The operators' newly acquired skills may lead to potential cost savings to the water systems since operators no longer have to outsource all repairs.
4. *Board Management Training.* State law requires newly-elected water system board members of private, non-profit water systems and officials of municipal water systems with a population of 10,000 or fewer to receive training in their duties and responsibilities. MSU-ES coordinates with other selected training partners to deliver this training throughout the State. During FY 2017, MSU-ES administered 11 Board Management Training sessions to 218 board members and managers representing 181 public water systems.

DWSRF Program Integration: Operator Certification

MSDH's regulation governing the certification of operators of PWSs was promulgated under the authority of the Municipal and Domestic Water and Wastewater System Operator's Certification Act of 1986. This law made the certification of operators mandatory after July 1, 1987. In Mississippi, certified operators are required for community and non-transient non-community water systems. The Bureau of Public Water Supply of MSDH issues and renews operator certificates. Water systems are classified according to specific criteria included in MSDH regulation.

In the Public Water Supply Annual Report, the owner or responsible official of the system designates the operator in responsible charge of the system. In 2017, certified operators were required at 1,060 community systems and 75 NTNCWS; however, five (5) community systems and one (1) NTNCW did not have a certified operator. If a system fails to hire a certified operator and/or provide their Public Water Supply Annual Report, the Bureau may issue an enforcement action to the system.

The new Waterworks Operator Database is expected to improve the certification and renewal process. Operators will be able to track their training credits. Depending on experience, MSDH operators are required to have up to 48 hours of continuing education in each 3-year certification period.

Rule Implementation – Lead and Copper Rule

In 2016, the EPA reviewed the State implementation of the LCR. EPA HQ asked the EPA Regional Offices (ROs) to confirm that each state's protocols and procedures were consistent with the rule requirements. MSDH indicated that their protocols and procedures are consistent with requirements of the LCR. The information provided below focuses largely on historical action level exceedance (ALE) during FY 2013-FY 2015.

Mississippi's Historical Action Level Exceedances (2013-2015)

Table 6: MSDH ALE Totals

	Population					
ALEs	<=500	501-3,300	3,300-10,000	10,001-100,000	> 100,000	Totals
ALE in last three (3) FYS	11	7	1	0	1	20
Multiple ALEs	5	2	0	0	0	7
Schools with ALE	0	0	0	0	0	0

As of FY 2017, MSDH had concerns with four (4) of the 11 systems originally identified. These systems are the City of Jackson, North District 1 Water Association, Senatobia Lakes Estates, Inc., and Helena Utility District. During FY 2017, the EPA conducted a Priority Review of the MSDH's PWSS Program implementation of the LCR and identified strengths and challenges:

Best Practices Identified in MSDH:

Since 2015, MSDH has proactively ensured that systems distribute public education and consumer notices in a timely manner. The State expects that systems voluntarily issue consumer notices within 48 hours of receiving lab results. MSDH requires review and approval of source or treatment changes. The state does offer reduced cost analyses for LCR. By subsidizing the cost of lead and copper testing, economically challenged communities are provided access to information regarding their drinking water.

Transparency:

MSDH has their PWS information available to the public through their unmodified Drinking Water Watch.

Opportunities to Strengthen MSDH's Implementation Program:

MSDH mostly resolved LCR sampling and monitoring issues identified in the 2008 review. Reviewers found that MSDH has issues with ensuring that all post-ALE requirements have been met and appropriately documented. During the 2017 Priority Review, team members observed instances where systems appeared to stop making progress with corrosion control treatment (CCT) installation despite multiple ALEs over several years. Although systems may cease completing steps in accordance with 141.81(c), they are required to resume completion after any ALE is incurred thereafter. Based on this information, the Priority Review team recommended that water systems with recurring ALEs complete CCT installation.

Priority Review team members also noticed challenges after samples are analyzed and an ALE has occurred. Reviewers found that MSDH still has issues with ensuring that all post-ALE requirements have been met and appropriately documented, particularly those for CCT, source-water treatment recommendations by systems, state determinations regarding those recommendations, and water quality parameter determinations.

Data Management and Reliability

MSDH manages PWSS program information using SDWIS State v3.3 and uses FedRep version 3.51 for reporting data to EPA HQ. MSDH uses the most current version of FedRep, which ensures reporting on all drinking water rules. MSDH determines rule compliance using the SDWIS State Compliance Decision Support (CDS) and internal spreadsheets. CDS improves data quality and provides consistent interpretation of drinking water regulations compliance.

MSDH's principal issue with receiving laboratory data is the outdated version of their current Laboratory Information Management System (LIMS). The current system, LabWare LIMS, is unable to be upgraded, therefore the State lab is scheduled to be running a new LIMS by November 2018.

The Compliance Monitoring Data Portal (CMDP) and the SDWIS Primacy Agency (SDWIS Prime) are in Phases 1 and 2 of SDWIS modernization.

The latest version of the CMDP, released in September 2016, allows water laboratories and public drinking water systems to electronically share drinking water data with their states and tribal agencies. This data automation reduces the hours previously spent manually entering data, identifying data-entry errors, and issuing data resubmittal requests. MSDH has not transitioned to CMDP; however, MSDH has assigned an individual to research this component in preparation to transition to CMDP. MSDH is currently coordinating with their State laboratory and State Information Technology Services (ITS) to capture more data through an online portal.

The SDWIS Prime application provides greater functionality than SDWIS. SDWIS Prime facilitates improved information exchange between primacy agencies, regulated entities, EPA regions, and EPA HQ. SDWIS Prime will:

- Update the technology used by SDWIS Prime, reducing system operations and maintenance cost;
- Use modern decision support technology to assess non-compliance with national primary drinking water regulations (including functions such as compliance decision audit trail reports / electronic data verification); and
- Improve the user experience and facilitate more efficient business processes.

MSDH will transition to SDWIS Prime once it becomes available.

Laboratory Certification

State Primacy Laboratory Certification: As part of the requirements for maintaining certification by the EPA under SDWA, laboratories must successfully pass an on-site EPA drinking water assessment on a triennial basis and successfully analyze a proficiency test (PT) sample for each of the chemical, microbiological and radiochemical regulated contaminants for which certification is requested. If the state's laboratory does not have the analytical capability for a regulated contaminant, the state must have a written agreement with a contract laboratory for analysis of the contaminant.

On August 23, 2016, the EPA Region 4 Science and Ecosystems Support Division (SESD) assessed MSDH's Laboratory's chemistry and microbiology areas during a triennial visit. The laboratory passed the assessment and will maintain its **Certified** status through August 23, 2019. The Mississippi Public Health Laboratory is **Provisionally Certified** for EPA Methods 531.2 and 547, pending submittal of MDL, IDC, DOC and PT studies. The certification status of each area of responsibility is listed in *Table 7: MS State Primacy Laboratory Certification Status*, below. The few primary drinking water contaminants that are analyzed by contract laboratories are certified through reciprocity. The primacy laboratories successfully passed all FY 17 PT criteria.

State Certification Program: On August 23, 2016, the EPA Region 4 SED assessed MSDH. The state will maintain its status of *Effective* through August 23, 2019. The State's certification program tracks PT results of the in-state and out-of-state contract laboratories that analyze drinking water samples for the State. The certification program requires the laboratories to perform acceptable PT samples annually. The certification officers also perform the required drinking water laboratory audits for contract laboratories maintaining their drinking water certification status. The officers perform the audits every three years, as required. The number of contract laboratories assessed is listed in *Table 8: MS Laboratory Certification Program; Number of Certified Laboratories*. The number of certification officers performing the audits and tracking PTs within the program is listed in *Table 9: MS Laboratory Certification Program; Number of Certified Auditors*.

Table 7: MS State Primary Laboratory Certification Status*

Laboratory Name(s) and Location	Laboratory Type	Certification/Accreditation Entity and Date of Most Recent On-site Audit	Chemistry	Microbiology	Radiochemistry	Cryptosporidium	Dioxin	Asbestos
Mississippi Public Health Laboratory, Jackson, MS	Primary State Laboratory	EPA (Region 4) August 23, 2016 EPA (Region 4) August 23, 2016			EPA (Region 4) August 23, 2016 Uranium Only; August 23, 2016	NA	NA	NA
Eurofins South Bend, IN	Contract Laboratory	SOCs Only; Certified by the state		NA	Certified by NELAP	NA	NA	NA
Texas State Department of Health Services	Contract Laboratory	PCBs Only; Certified through reciprocity		NA	NA	NA	NA	NA
Contract Laboratory TBD	Contract Laboratory	NA		NA	NA	NA	NA	TBD

NA = Analytes not analyzed by this laboratory

*Data obtained from the OW Annual Report 2018 and State Lab Audits Dates and Certification Status April 13, 2018.

Table 8: MS Laboratory Certification Program; Number of Certified Laboratories*

Number of Laboratories Certified for Drinking Water Analyses by MSDH certification program, In-State and Out-of-State ()				
Chemistry	Microbiology	Radiochemistry	Cryptosporidium	Asbestos
2 (0)	5 (0)	0 (0)	0 (0)	0 (0)
Number of Laboratories Certified for Drinking Water Analysis (by reciprocity) In-State and Out-of-State ()				
Chemistry	Microbiology	Radiochemistry	Cryptosporidium	Asbestos
13 (0)	4 (0)	0 (0)	0 (0)	1 (0)

*Data obtained from the OW Annual Report 2018

Table 9: MS Laboratory Certification Program; Number of Certified Auditors*

Area of Responsibility	Number of Auditors Certified to Audit Laboratories within the Area of Responsibility; State auditors and contractors ()
Chemistry	5 (0)
Microbiology	3 (0)

*Data obtained from the OW Annual Report 2018

